

What is claimed is:

1. A method of storing data in a ferroelectric memory device which includes a plurality of wordlines, a plurality of bitlines which intersect the plurality of wordlines, and a plurality of memory cells, each of the memory cells being provided at an intersecting point of one of the wordlines and one of the bitlines and including a ferroelectric capacitor to which voltage between one of the wordlines and one of the bitlines that intersect each other is directly applied, the method comprising:

performing a program cycle or a read cycle for a plurality of selected memory cells selected from among the plurality of memory cells, each of the program cycle and the read cycle including a first period for writing first data into the selected memory cells and a second period for writing second data into the selected memory cells, and the second period being set after the first period; and

writing the second data into the selected memory cells according to program data designated by the program request, when a program request occurs in the first period in the read cycle.

2. The method of storing data in a ferroelectric memory device as defined in claim

1,

wherein, when the program request occurs in the second period in the read cycle, the second data is rewritten into a memory cell that stores the second data among the selected memory cells without accepting the program request.

3. The method of storing data in a ferroelectric memory device as defined in claim

1,

wherein the program data is input before the second period starts.

4. The method of storing data in a ferroelectric memory device as defined in claim 1,

wherein the program data is input before the wordlines or the bitlines connected with the selected memory cells reach a select voltage in the second period.

5. The method of storing data in a ferroelectric memory device as defined in claim 1,

wherein the second period starts after the program data has been input.

6. The method of storing data in a ferroelectric memory device as defined in claim 5,

wherein the memory cells are set in a standby state, in which the voltage is not applied to the memory cells, during a period until the program data is input after the first period has finished.

7. The method of storing data in a ferroelectric memory device as defined in claim 1,

wherein, when the program request occurs in the second period in the read cycle, the read cycle is terminated before an entire part of the read cycle has completed and the program cycle starts according to the program request.

8. A method of storing data in a ferroelectric memory device which includes a plurality of wordlines, a plurality of bitlines which intersect the plurality of wordlines, and a plurality of memory cells, each of the memory cells being provided at an intersecting point of one of the wordlines and one of the bitlines and including a ferroelectric capacitor to which voltage between one of the wordlines and one of the bitlines that intersect each other is directly applied, the method comprising:

performing a program cycle or a read cycle for a plurality of selected memory cells selected from among the plurality of memory cells, each of the program cycle and the read cycle including a first period for writing first data into the selected memory cells and a second period for writing second data into the selected memory cells, and the second period being set after the first period; and

writing the first data into all of the memory cells irrespective of presence or absence of program data in the first period in the program cycle, and writing the second data into a memory cell designated by the program data from among the plurality of selected memory cells when the program data is input in the first period in the program cycle.

9. The method of storing data in a ferroelectric memory device as defined in claim 8,

wherein, when a change request for new program data occurs in a period other than the first period, the change request is not accepted.

10. The method of storing data in a ferroelectric memory device as defined in claim 8,

wherein, when the program data is input before the wordlines or the bitlines connected with the selected memory cells reach a select voltage in the second period, the write operation of the second data is performed according to the program data.

11. The method of storing data in a ferroelectric memory device as defined in claim 8,

wherein the second period in the program cycle starts after the program data has been input.

12. The method of storing data in a ferroelectric memory device as defined in claim 11,

wherein the memory cells are set in a standby state, in which the voltage is not applied to the memory cells, during a period until the program data is input after the first  
5 period has finished.